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NOTICE OF ALLOWANCE AND FEE(S) DUE

22801 7590 10/14/2008
LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER	
DAVIS, ZACHARY A	
ART UNIT	PAPER NUMBER

2437
DATE MAILED: 10/14/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,653	06/27/2003	Dinarte R. Morais	MS1-1430US	7042

TITLE OF INVENTION: SYSTEMS AND METHODS FOR CACHING IN AUTHENTICATION SYSTEMS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/14/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22801 7590 10/14/2008

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,653	06/27/2003	Dinarte R. Morais	MS1-1430US	7042

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nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/14/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
DAVIS, ZACHARY A	2437	713-170000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**

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			ART UNIT	PAPER NUMBER
			2437	

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 514 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 514 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/608,653

Examiner

Zachary A. Davis

Applicant(s)

MORAIS ET AL.

Art Unit

2437

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the RCE and amendment received 23 July 2008.
2. ☒ The allowed claim(s) is/are 16, 18-23 and 61-74.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 July 2008 has been entered.
2. By the above submission, Claims 16, 18, 19, 22, 23, 61-63, and 68-74 have been amended. No claims have been added or canceled. Claims 16, 18-23, and 61-74 are currently pending in the present response.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Meline on 24 September 2008.

The application has been amended as follows:

Please **REPLACE the Claims** with the following amended full claim listing:

1-15. (Canceled)

16. (Currently Amended) A process for verification of a client authentication request by a server which can decrease problems associated with sham authentication requests, the process comprising:

receiving, in the server, a client authentication request including client-specific data;

comparing the client specific data to data stored in a first cache memory coupled to the server to determine whether the client specific data meet a first threshold of validity;

~~if comparing determines that the client specific data meet the first threshold of validity, proceeding with the authentication process; and~~

~~if comparing determines that the client specific data do not meet the first threshold of validity, then storing in a second cache memory a portion of the client specific data and an indication that the client specific data do not correspond to a valid client, wherein the portion of the client specific data and the indication stored in the second cache memory identify a client name associated with the client authentication request and associate the client name with a negative indication of validity regardless of~~

whether the client specific data includes valid proof of knowledge of privileged data, and then terminating the verification process.

17. (Canceled)

18. (Previously presented) The process of claim 16, wherein:

proceeding with the authentication process comprises comparing the client specific data with data stored in the second cache memory to determine whether the client specific data meet a second threshold of validity and whether the client specific data correspond to an identity previously determined to be valid or invalid;

if the client specific data meet the second threshold, transmitting a request for verification to a database containing client specific data; and

if the client specific data correspond to an identity previously determined to be invalid, terminating the authentication request.

19. (Previously presented) The process of claim 16, wherein receiving comprises receiving data including one or more of: a name, a NameHash, a truncation of a NameHash, a NameKeyHash, a truncation of a NameKeyHash, a TimedNameKeyHash, a truncation of a TimedNameKeyHash or a time.

20. (Original) The process of claim 16, wherein receiving comprises receiving a TimedNameKeyHash.

21. (Original) The process of claim 16, wherein receiving comprises receiving a TimedNameKeyHash and a current time.

22. (Previously presented) The process of claim 16, wherein comparing the client specific data to data stored in the first cache memory comprises comparing a TimedNameKeyHash contained in the authentication request to a function of a stored NameKeyHash and a current time.

23. (Currently Amended) The process of claim 16, wherein receiving client specific data includes receiving a current time, and further comprising determining whether the received current time disagrees with another current time used by the authentication server, and, ~~when~~ if the received current time and the ~~another~~ other current time disagree, sending the ~~another~~ other current time to an originator of the authentication request.

24-60. (Canceled)

61. (Currently Amended) A computer system comprising:
an authentication server; and
a first cache memory coupled to the authentication server, wherein the authentication server is configured to perform a method, the method comprising:

receiving a client authentication request including client-specific data;
comparing the client specific data to data stored in the first cache memory coupled to the authentication server to determine whether the client specific data meet a first threshold of validity;

~~if comparing determines that~~ the client specific data do not meet the first threshold of validity, ~~terminate~~ terminating authentication and ~~deny~~ denying the authentication request;

~~if comparing determines that~~ the client specific data meet the first threshold of validity, ~~proceed~~ proceeding with authentication by comparing the client specific data with data stored in a second cache memory to determine whether the client specific data meet a second threshold of validity and whether the client specific data correspond to an identity previously determined to be valid or invalid;

if the client specific data meet the second threshold, transmitting a request for verification to a database containing client-specific data; and

if the client specific data correspond to an identity previously determined to be invalid, terminating the authentication request.

62. (Previously presented) The computer system of claim 61, wherein the authentication server is configured to employ a first, plaintext portion of the client-specific data as a cache key to obtain related encrypted client-specific data from the first cache memory.

63. (Currently Amended) The computer system of claim 61, wherein the authentication server is further configured to perform steps comprising: storing ~~store~~ at least a portion of the client specific data in the second cache memory along with an indication that the client specific data do not correspond to a valid client if ~~comparing~~ ~~determines that~~ the client specific data do not meet the first threshold.

64. (Previously Presented) The computer system of claim 61, wherein the client-specific data includes a NameKeyHash that is also a function of time.

65. (Previously Presented) The computer system of claim 61, wherein the client-specific data includes a TimedNameKeyHash.

66. (Previously Presented) The computer system of claim 61, wherein the client specific data includes a TimedNameKeyHash and a current time is included with the client-specific data.

67. (Currently amended) The computer system of claim 61, wherein the client specific data stored in the first cache memory comprises a NameKeyHash, and wherein the authentication server is further configured to perform steps comprising: forming ~~form~~ a TimedNameKeyHash from the NameKeyHash and ~~to compare~~ comparing the formed TimedNameKeyHash to a portion of the client-specific data.

68. (Currently Amended) The computer system of claim 61, wherein the client specific data includes a current time, and wherein the authentication server is further configured to perform steps comprising: determining ~~determine~~ whether the received current time disagrees with another current time, the ~~another~~ other current time being used by the authentication server, and if the received current time and the ~~another~~ other current time disagree, ~~send~~ sending the ~~another~~ other current time to an originator of the authentication request.

69. (Currently Amended) A process for verification of a client authentication request by a server which can decrease problems associated with sham authentication requests, the process comprising:

receiving, in the server, a client authentication request including client-specific data comprising a name or hash of the name along with a client key or a proof of knowledge which identifies the client key;

comparing the client-specific data to data stored in a first cache memory coupled to the server to determine whether the ~~client-specific~~ client-specific data meet a first threshold of validity, wherein the first cache memory stores names and keys of valid clients, and wherein the first cache memory uses the name or the hash of the name as a cache key to access the first cache memory;

~~if comparing determines that~~ the client-specific data meet the first threshold of validity, the first threshold of validity being met when the name and the client key

identified in the client authentication request correspond to a valid entry in the first cache memory, proceeding with the authentication process; and

~~if comparing determines that~~ the client-specific data do not meet the first threshold of validity, then storing the name, the client key, and validity/invalidity indicators in a second cache memory, wherein the name stored in the second cache memory is associated with a validity indication regardless of whether the client key or the proof of knowledge for the client key matches data in an associated authentication database, and terminating the verification process.

70. (Currently Amended) A process for authenticating a user which can decrease problems associated with sham authentication requests, the process comprising:

receiving an authentication request including first client specific data comprising at least one of a client name and proof of knowledge of a client key;

computing a NameHash using the received client name and a random session key;

using data corresponding to the NameHash as a cache key to access first validity threshold data from a first cache memory;

comparing the first validity threshold data to the first client specific data; and

~~if comparing determines that~~ the first client specific data do not meet the first threshold of validity, then storing a portion of the client specific data in a second cache memory along with an indication that the client specific data do not correspond to a valid client, the portion of the client specific data stored in the second cache memory

identifying a client name associated with the client authentication request and associating the client name with a validity indication regardless of whether the client specific data included valid proof of knowledge of privileged data, and then terminating the verification process.

71. (Previously presented) The process of claim 70, further comprising, when the first validity data do not match the first client data, storing the client key and a CredentialInvalidFlag in the second cache memory.

72. (Previously presented) The process of claim 70, further comprising, when the first validity data do match the first client data, employing the client name as a cache key to access second client validity data from the second cache memory.

73. (Previously presented) The process of claim 70, further comprising, when the first validity data do match the first client data, employing the client name as a cache key to access second client validity data from the second cache memory, wherein the second client validity data comprise a stored copy of a client key.

74. (Previously presented) The process of claim 70, wherein using data corresponding to the NameHash as a cache key comprises using a truncation of the NameHash to access first validity threshold data from the first cache memory.

Allowable Subject Matter

4. Claims 16, 18-23, and 61-74 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Independent Claims 16, 61, 69, and 70 are generally directed to methods for verifying authentication requests or specifically authenticating users, and corresponding systems. Each independent Claim generally recites using both first and second cache memories in the method or system. For example, Claim 16 recites checking a request for validity against a first cache, and then storing data in the second cache that indicates that the client name is not valid if a first validity threshold is not met. Further, dependent Claim 18 and independent Claims 61, 69, and 70 each additionally recite storing data in the second cache that indicates that the client name is valid if the first threshold of validity is met even if a second threshold of validity, such as a proof of knowledge, is not met. The Newcombe reference discloses general methods for verification of a client request as previously described. The Chang reference generally discloses the use of cache memories for validation purposes as previously described. The Kou reference (previously cited but not relied upon) also generally discloses verification of client authentication requests that includes generation of a cookie for registered clients. The above references are considered the closest prior art. However, none of Newcombe, Chang, and Kou, alone or in combination, explicitly teach or suggest all of the limitations of the independent claims, in particular the use of two cache memories, where data in a

request is checked for validity against a first cache and then data is stored in the second cache even if validation fails, to indicate whether or not the client name is a valid name.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary A. Davis whose telephone number is (571)272-3870. The examiner can normally be reached on weekdays 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2437

/ZAD/
Examiner, Art Unit 2437